Hawk Ranger 6

Car-use HD DVB-T Diversity Receiver with CONAX CA and Common Interface

User Manual

Important Safety Instructions and Caution

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK –
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING
TO QUALIFIED SERVICE PERSONNE;

The lighting flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk at electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Please read all of these instructions regarding your unit and retain them for future reference.

- Read this manual fully and carefully before operating this in-car DVB-T receiver.
- Keep this manual handy as a reference for operating procedures and safety information.
- Pay close attention to all warnings in this manual and follow the instructions carefully.
- Do not allow other people to use this system until they have read and understood the operating instructions.
- Do no block or cover the slots and openings in the cabinet. These openings are provided for ventilation, to ensure reliable operation of the product and to protect it from overheating.
- Do not operate this in-car DVB-T receiver in any way that will divert your attention from your vehicle. Always observe safe driving rules and follow all traffic regulations. If you experience difficulty in operating the system or reading the display, park you vehicle in a safe location and make necessary adjustment.
- Do not push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
- Do not place this unit near liquids. Electrical shock could result. Also, damages result from splashing liquids on receiver., can cause smoke, and overheat
- Be sure to run the vehicle engine while using this unit to avoid battery exhaustion.

Precaution

On Safety

- Do not attempt to install or service your DVB-T receiver by yourself. Installation or servicing by people without training and experiences in both electronic equipment and automotive accessories may be dangerous and could expose you to the risk of electric shock or other hazards.
- If the receiver does not work properly, please pull out the electrical plug for safety. Contact us for further technical support.
- If any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.

On Placement

- Do not install the in-car DVB-T receiver where it may (i) obstruct the driver's vision, (ii) impair the performance of any of the vehicle's operating systems or safety features, including air bags, hazard lamp buttons or (iii) impair the driver's ability to safely operate the vehicle.

On Operation

- The unit may not work because of improper operation. The limited warranty does not cover consequent losses that rise from improper usage.

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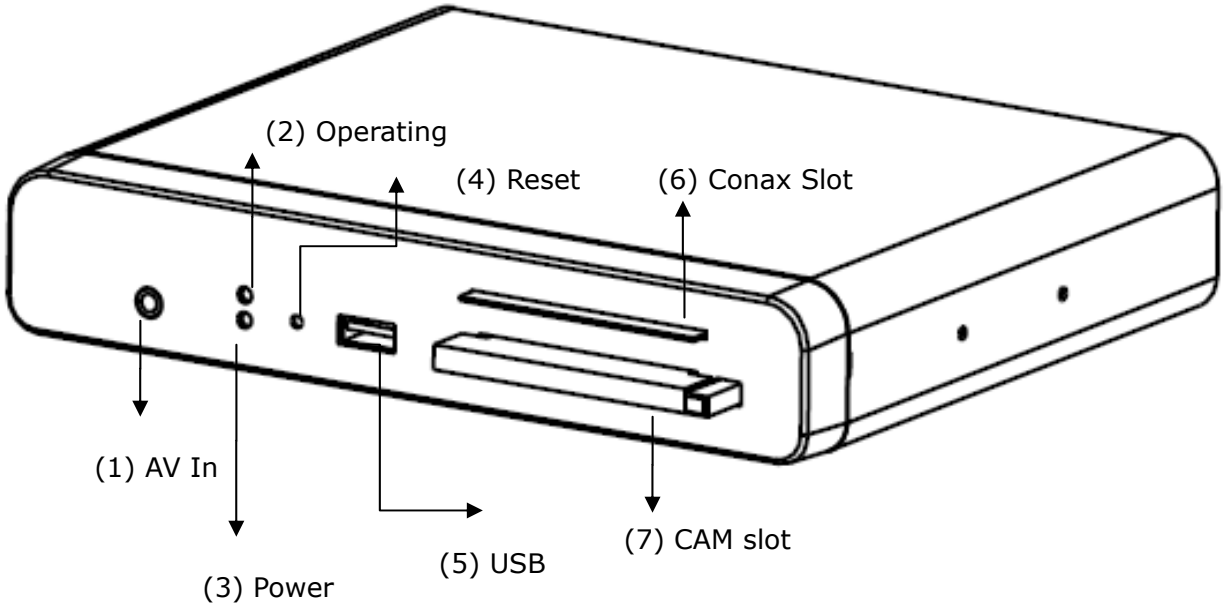
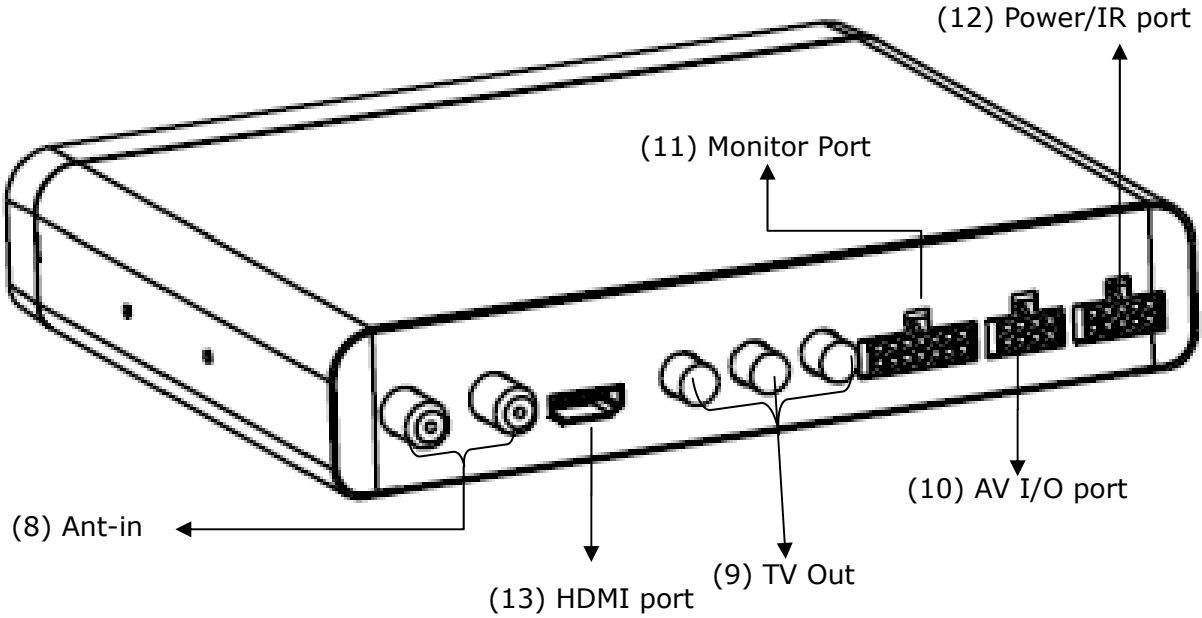
Unit Description & Installation Guide

Front Side



(1) AV In (3.5 Φ earphone jack): audio/video signal input ports for external devices such as DVD, GPS, i-Pod, i-Phone, etc.
(2) Operating: the "Operating" LED indicates if the system is working.
(3) Power: the "Power" LED indicates if the 12V or 24V power supply has been successfully applied to the device.
(4) Reset: Press the reset button to reset the device
(5) USB port: Plug the USB memory stick and HDD to USB port for multimedia playback and TV recording.
(6) Conax Slot: Plug the Conax smart card in slot to enable pay-TV service
(7) CAM Slot: Plug the CAM card and smart card in slot to enable pay-TV service

Back Side



(8) Ant. In: antenna connection port (*NOTE: this unit provides +5V antenna power through this connection port.)*

(9) TV Out: Connect the TV output ports (CVBS, Audio L, and Audio R) to monitor.

(10) AV I/O port (RCA jack)*: 2 sets of video output ports of rear monitors and one set of audio/video signal input ports for external devices such as DVD, GPS, etc.

(11) Monitor Port (optional)*: for advanced integration with 2-Din monitor which supports touch operation controlled through UART and IR interface.

(12) Power/IR Port*: it is connected to vehicle's battery and external extension cable of infrared receiver.

(13) HDMI Port : HDMI output port.

**Please see next chapter for further information*

Warning: Make sure the power supply jack is correctly connected.

When The unit is intended to use +12/24V power supply provided via ACC route, please make sure the red wire is correctly connected with the ACC ignition for proper system operations.

Warning: Connect antennas into the unit before turning on.

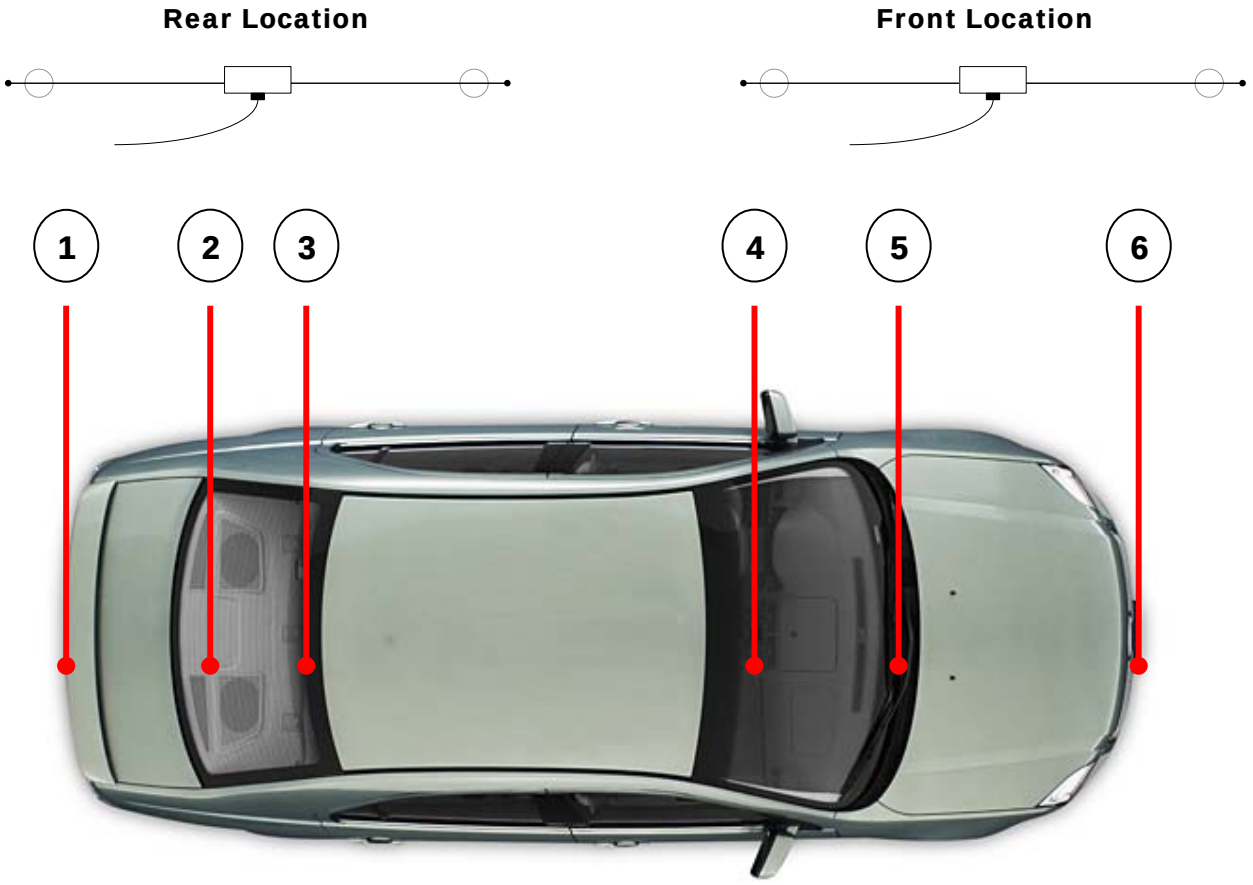
Please connect the antennas first and then turn on the unit. The device will not detect the active antenna and provide antenna power if it is installed the other way around.

Antenna Connection

DVB-T reception will vary from vehicle to vehicle and you may have to try several mounting positions to determine which position provides the strongest signal in your vehicle.

We recommend for one antenna to be mounted at the front and one at the rear of the vehicle.

Please refer to the Diagram below for some of our recommendations:

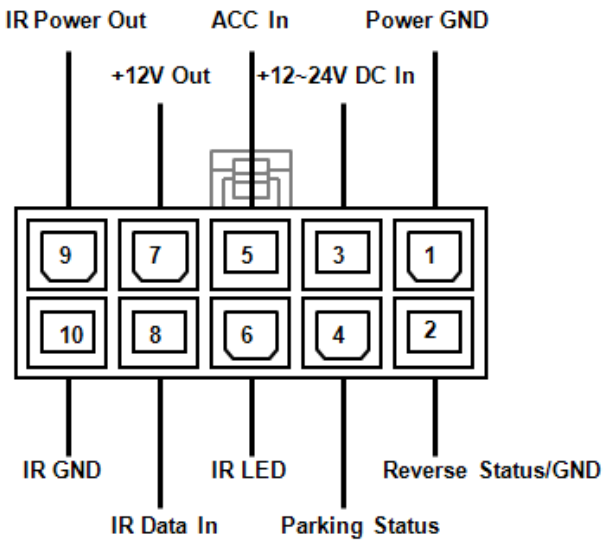


(1) Behind the Rear Bumper. (providing it's not Metal)
(2) Bottom of Rear Windscreen
(3) Top of Rear Windscreen
(4) Top of Front Windscreen
(5) Bottom of Front Windscreen
(6) Behind the Front Bumper. (providing that it's not Metal)

Once a suitable position is found, carefully route the antenna cables to the receiver unit and then connect to the Antenna Inputs.

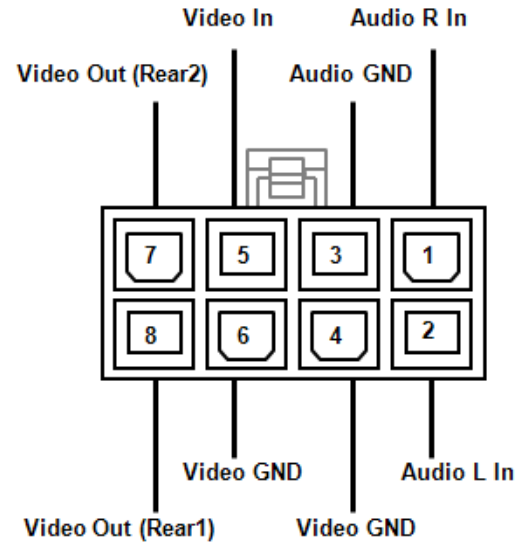
I/O Ports Definition

Power I/O Port



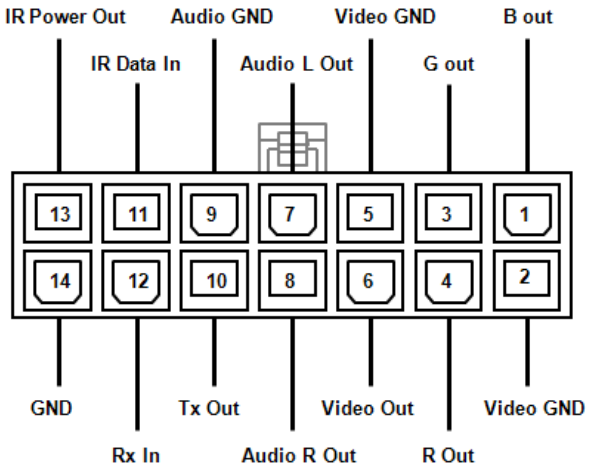
1	Ground (black wire). Connect this cable to vehicles chassis ground.
2	- Reverse status (orange wire). Connect this cable to reverse gear to see the image of rear view camera image on front monitor. - Keep the cable grounded if the reverse mode is not enabled.
3	+12 ~ 24 V DC input (yellow wire). Connect this cable to (+) pole of the battery
4	-Parking status (green wire). Connect this cable to handbrake switch of your vehicle. - Keep the cable floating if the parking mode is not enabled.
5	ACC (red wire). Connect this cable to ACC ignition of your vehicle.
6	IR (Infrared) LED power. Power for the LED of the IR receiver.
7	+12V output to turn on active antennas or amplifier.
8	IR (Infrared) data input. Infrared data of the IR receiver.
9	IR (Infrared) power. Power of IR LED.
10	IR ground. Ground for IR LED.

AV I/O Port



1	External AV Input	Audio R input
2		Audio L input
3		Audio ground
4		Video ground
5		Video input
6	Video Output	Video ground
7		Video out for rear monitor
8		Video out for rear monitor

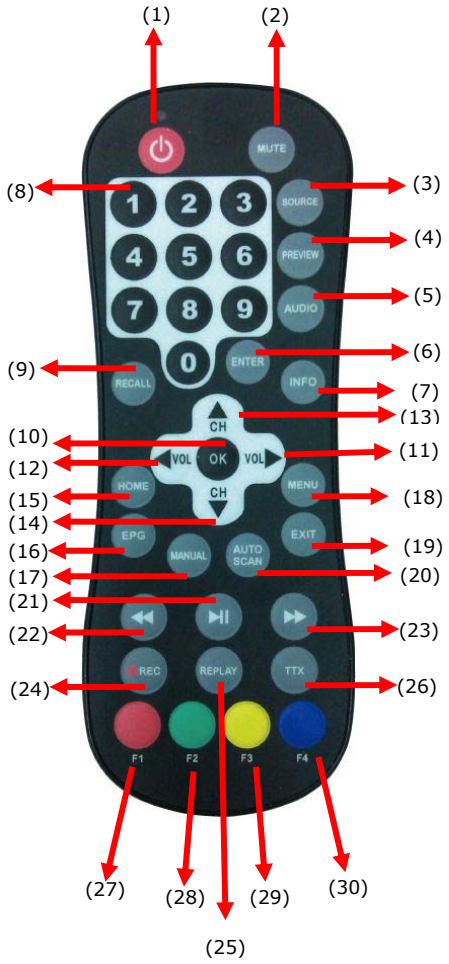
Monitor Port



1	RGB Component Video Out	B output
2		Video GND
3		G output
4		R output
5		Video GND
6		CVBS Video out
7	Audio Out	Audio L output
8		Audio R output
9		Audio ground
10	Operating Command	UART Tx output
11		IR data input
12		UART Rx input
13		IR power output
14		Ground

Remote Control Operations

	Button name	Function
1	POWER	Select power-on or stand-by
2	MUTE	Mute control
3	SOURCE	Select a video source from DTV/AV1/AV2
4	PREVIEW	*No function*
5	AUDIO	Select second language and stereo audio
6	ENTER	To enter the selected channel number
7	INFO	Display digital TV system information
8	Digital keys	Digit buttons to select channels
9	RECALL	Return to the last selected channel
10	OK	Select the highlighted item
11	VOL▶	Select volume up or move the cursor right
12	VOL◀	Select volume down or move the cursor left
13	CH▲	Select channel up or move the cursor up
14	CH▼	Select channel down or move the cursor down
15	Home	Go to home screen
16	EPG	Electronic Program Guide
17	MANUAL	*No function*
18	MENU	Enter the setup menu
19	EXIT	Exit the current setup
20	AUTO SCAN	To scan channels automatically
21	PLAY/PAUSE	Select play or pause
22	FR	Fast Rewind
23	FF	Fast Forward
24	REC●	Start record TV/Radio program or exit recording
25	Replay	No function
26	TTX	To display teletext content
27	RED BUTTON	Subtitle key in normal operation mode or the hot
28	GREEN BUTTON	Hot key to enter Teletext pages in Teletext mode
29	YELLOW BUTTON	Select page up in the EPG mode or the hot key to
30	BLUE BUTTON	Select page down in the EPG mode or the hot key



Remote Control Battery Installation

If the battery in remote controller is low on power, please install the battery as described below.

1. Rotate the battery cover to the 'open' side and remove the cover.
2. Replace old battery with new one.
3. Set cover back based on the indentation.

Accessories

Basic accessories:

- Power cord
- Remote controller
- AV port cord
- IR extension cable

Optional accessories:

- Active antennas
- Monitor port cord

I. Home Menu

This is the home menu screen. You can highlight the DVB-T TV mode, the DVB-T Radio mode, the video playback mode, the music playback mode, the picture viewing mode, and the system settings. Use [CH▲] and [CH▼] buttons to highlight the desired item and press [OK] button to select it.

DVB-T TV Mode
To enter DVB-T TV mode.

DVB-T Radio Mode
To listen to DVB-T radio broadcasting.

Movie Playback Mode
To enter movie playback mode and watch movie files.

Music Playback Mode
To enter audio playback mode and listen to music.

Photo Viewing Mode
To enter photo viewing mode and watch pictures.

System Settings
To configure the device settings.

Note: Press the [HOME] key to go back to the home screen anytime.
Press the [SOURCE] key to switch AV source anytime.

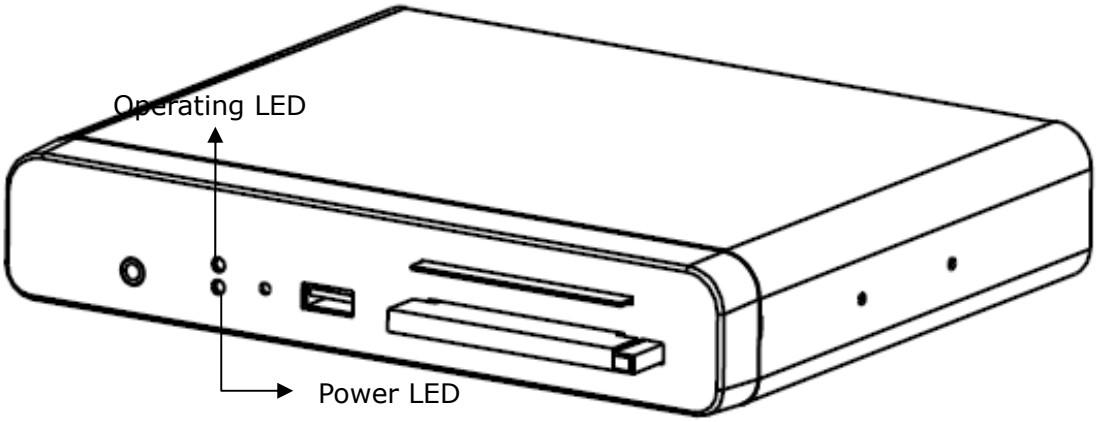
II. Quick Guide for First-time User

II.1. DVB-T TV Watching

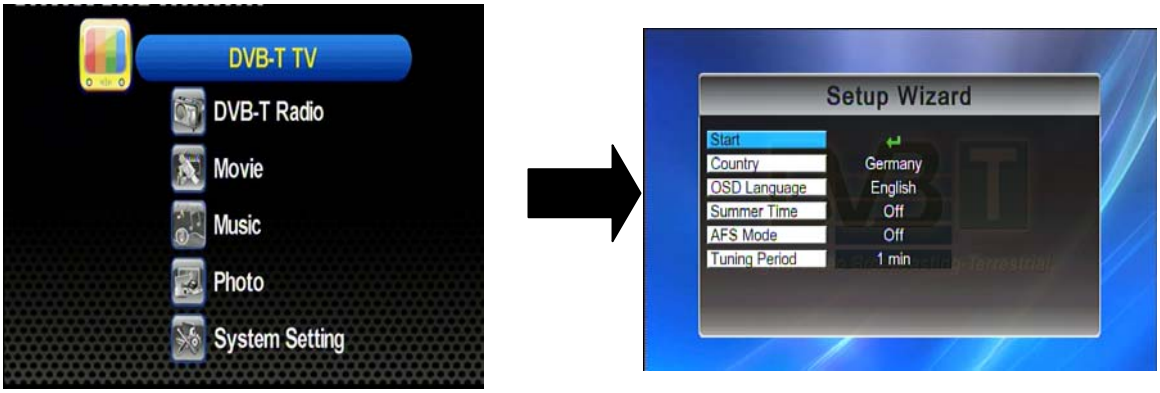
Step 1: Turn on the device

1. Turn on the vehicle's ACC or IGN. (or start the vehicle)
2. When the device has power, the POWER LED indicator will illuminate RED.
3. Press the POWER button to turn the device on. Operating LED on the device will illuminate Green when system is ON.

NOTE: *If the Operating LED does not turn on, please check if the battery is inserted properly in the remote control or battery has sufficient power.*



Step 2: Press [CH▲]/[CH▼] buttons to select "TV" options and press [OK] button to enter the TV mode. After that, the setup wizard screen shows up.



Step 3: Select your own OSD language, your located region, whether it's summer time at present.

1. Use [CH▲]/[CH▼] buttons to highlight the item.
2. Use [VOL▶] button to set the highlight item.
3. Press [CH▲]/[CH▼] buttons to scroll up and down the options.
4. Select one by pressing the [OK] button or exit the setting by pressing the [MENU] button.

NOTE: *Time zone setting will be automatically updated once the Region setting is changed.*

Step 4: Perform auto search to find available DVB-T channels.

1. Use [CH▲]/[CH▼] buttons to highlight the "start" option.
2. Press [OK] button to start auto searching.

Step 5: Job well-done! You can now sit back and enjoy your mobile TV.

NOTE: *Keep [OK] button pressed to change the aspect ratio of current TV program.*

11.2. DVB-T Radio Listening

1. Press [CH▲]/[CH▼]] buttons to select the Ratio item and then press [OK] button to enter the radio mode.

2. Press [CH▲]/[CH▼]buttons to select your preferred radio channel.

3. The radio service will start instantly.

11.3.Record Function

NOTE: *HR-VI supports both DVB-T TV and DVB-T Radio recording.*

1. During TV or Radio mode, press [REC] to start recording TV/Radio programs. The timer menu will appear on the lower left screen. This timer menu will disappear automatically when no operation is performed within 10 seconds.

NOTE:

a. Please ensure that a USB Storage device is connected to the unit before recording.

b. While ACC/IGN is turned off, the unit will continue to record within preset recording time. The unit will automatically turn itself off after the recording is finished.

2. In the timer menu, you may use [CH▲] / [CH▼] to select the recording time. Then press [OK] to start the recording with selected timer. REC icon will appear on the left upper screen. The information of current recording time will be shown beside the REC icon.

3. You can simply call the timer menu out with press [REC] again.

4. To stop recording, please select the STOP item in timer menu.

5. Recorded TV programs can be played back in Movie mode. And the recorded Radio programs can be played back in Music mode.

Important notes:

i. *A recorded program will be stored in a default folder named "Recorded_Program". The file types will be ".TSV" file for TV program and ".TSA" file for Radio.*

ii. *The file is named as (Channel Name) + (Recorded Date Recorded Time)*

iii. *Maximum file size of FAT/FAT32 is 4 GB, if the file exceeds this size, the system will cut the recorded file into 2 parts.*

iv. *1 GB storage can record TV program for approximately up to 45 minutes.*

v. *Storage files system can support FAT/FAT32/NTFS format.*

vi. *Generally all USB 2.0 flash drive can be used as recorded file storage. However, there are cases when the USB flash drive can't store recorded programs from DVB-T receiver unit. It's strongly suggested to format the USB storage device by PC or laptop before it's inserted into the DVB-T receiver unit.*

vii. *WARNING! Please do not edit the "*.PLT" & "RECORD.TMP" files. Modifying/deleting this file will cause error on recorded file.*

II.4. Movie Watching

This section below will explain how to quickly play a video file stored on USB device.

1. After selecting movie playback mode on the home screen, file browser screen will appear. Press [OK] button to select the root folder.

2. The available video files will appear on screen. Use [CH▲] and [CH▼] buttons to scroll up and down through files, and then select the desired file by pressing [OK] button. The video file will instantly start playing.

NOTE: Users can only choose video files under this mode. System will not support music or photo files under this mode.

3. Press [EXIT] button to return.

***NOTE**:*

1. *Press the FR/ FF button to increase or decrease the playing speed.*
2. *Press the [PLAY/PAUSE] button to pause or resume music playing.*
3. *Press [RED●] button to delete highlighted file/folder.*

II.5. Music Listening

The section below will explain how to quickly play a music file stored on USB device.

1. After selecting music playback mode on the home screen, file browser screen will appear. Press [OK] button to select the root folder.

2. The available audio files will appear on screen. Use [CH▲] and [CH▼] buttons to scroll up and down through files, and then select the desired file by pressing the [OK] button. The audio file will instantly start playing.
   NOTE: users can only choose music files under this mode. Video or photo files are not supported under this mode

3. Press [EXIT] button to return.

***NOTE**:*

1. *Press the FR◀◀/ FF▶▶ button to increase or decrease the playing speed*
2. *Press the [PLAY/PAUSE] ⏯ button to pause or resume music playing.*
3. *Press [RED●] button to delete highlighted file/folder.*

11.6.Photo Viewing

The section below will explain how to view a picture file stored on USB device.

1. After selecting photo viewing mode on the home screen, file browser screen will appear. Press [OK] button to select the root folder.

2. Available picture and folders will appear on screen. Use [CH▲]/[CH▼]/[VOL▶]/[VOL◀] buttons to browse the folder, and then select the desired one by pressing [OK] button.
   Note: users can only choose photo files under this mode. If users choose music or video files, the system will not support.

3. A picture preview will appear. Press [CH▲]/[CH▼]/[VOL▶]/[VOL◀] to select a picture, and press [OK] button to display the picture in full screen mode.

4. Press [EXIT] button to return.

***NOTE**: Press the [PLAY/PAUSE] ⏯ button to pause or resume photo slideshow.*

Photo Viewing – Advanced Functions

Rotating picture

Press [VOL▶] button to rotate the picture clockwise, and press [VOL◀] button to rotate it counterclockwise.

Slideshow

Press [PLAY/PAUSE] to start/stop photo slideshow.

Zoom

1. When viewing a picture, press [OK] to enter zoom mode.
2. Press [FF] to zoom in or press [FR] to zoom out.
3. Use [CH▲]/[CH▼]/[VOL▶]/[VOL◀] to navigate the picture.
4. Press [EXIT] button to exit the zoom function.

III.Using the Menu

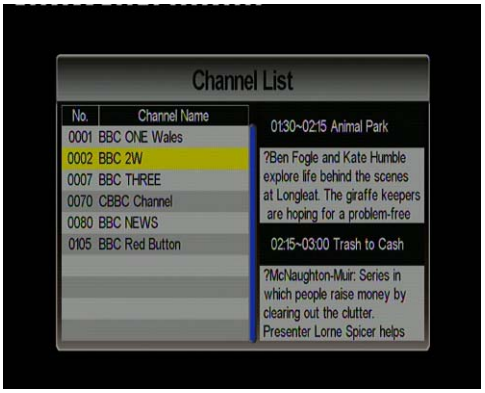
III.1. DVB-T TV/Radio Menu

After entering the DVB-T TV or Radio service, press [MENU] button to make the menu appear. By navigating through different options, you can have access to channel list, channel management, automatic channel search function, DVB-T audio settings, channel info, aspect ratio, subtitle function, teletext, AFS setting, access Common Interface information and access CONAX CA information.

III.1.1 Channel List

To display channel information, preview the program, and to access the Electronic Program Guide (EPG)

a. Channel List


Channel List
No.
Channel Name
0001 BBC ONE Wales
0002 BBC 2W
0007 BBC THREE
0070 CBBC Channel
0080 BBC NEWS
0105 BBC Red Button
01:30~02:15 Animal Park
?Ben Fogle and Kate Humble explore life behind the scenes at Longleat. The giraffe keepers are hoping for a problem-free
02:15~03:00 Trash to Cash
?McNaughton-Muir: Series in which people raise money by clearing out the clutter. Presenter Lorne Spicer helps

1. Select "Channel List" in the TV menu and press [OK] button. The "Channel List" will appear on screen.
   NOTE: you can also press [EPG] button on remote controller to enter "Channel List" while enjoying DVB-T TV/Radio.
2. Press [CH▲]/[CH▼] buttons to scroll up/down the channel list to preview the program.
3. Press [VOL▶] button to show the details of the channel.
4. Press [EXIT]/[MENU] button to exit.

b. Schedule

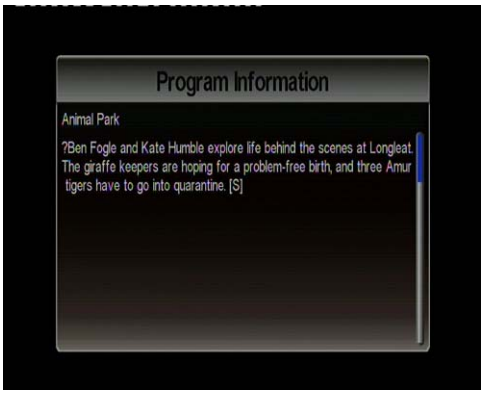
1. Press [CH▲]/[CH▼] buttons to scroll up/down the date list to see program schedule of the corresponding date.
2. Press [VOL▶] button to activate program schedule.
3. Press [CH▲]/[CH▼] buttons to scroll up/down the program schedule to see previous/next program on the selected

date.

4. To return back to date list, please press [VOL◀] button
5. While in program schedule list, press [OK] button to see more information of the selected program.
6. Press [EXIT]/[MENU] button to return "Channel List" screen.

c. Brief

1. Press [EXIT]/[MENU] to return to "Schedule" screen.


Program Information
Animal Park
?Ben Fogle and Kate Humble explore life behind the scenes at Longleat. The giraffe keepers are hoping for a problem-free birth, and three Amur tigers have to go into quarantine. [S]

III.1.2 Channel Management

To rearrange and to edit the TV channel list by skip, move, and delete functions.

1. Select "Channel Management" in the TV Menu and press [OK] button. The management screen will appear as on the picture on the right.
2. Press [CH▲]/[CH▼] buttons to scroll up/down the channel list. Press [OK] button to enter the editing menu for a chosen channel.
3. Press [EXIT]/[MENU] button to exit anytime.

Skip a Channel

1. After entering the channel editing menu, select the "SKIP" visual-button on screen by pressing [VOL▶]/[VOL◀] buttons.
2. Press [OK] button to activate or deactivate it.

*NOTE: this function **temporarily** removes the channel from the program list. Users can restore the channels by deactivating this function.*

Channel Movement

1. After entering the channel editing menu, select the "MOVE" visual-button

on screen by pressing [VOL▶]/[VOL◀] buttons.

2. Use [CH▲]/[CH▼] buttons to move the channel up or down in the list.
3. Press [OK] button to save the new listing.

Channel Delete

1. After entering the channel editing menu, select the "DELETE" visual-button on screen by using [VOL▶]/[VOL◀] buttons.
2. Press [OK] button to delete the channel.

*NOTE: this function will **permanently** delete the channel from the current program list. Users restore the channels only by performing auto search.*

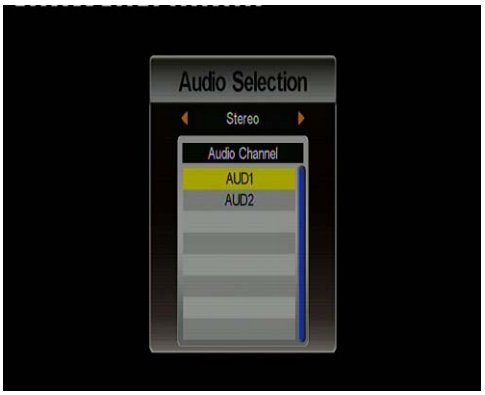
III.1.3 Auto Search

To search the available channels automatically.

1. Browse the TV menu screen using [CH▲]/[CH▼] buttons to highlight the "Automatic Search" option.
   NOTE: you can also press [AUTO SCAN] button to enter "Automatic Channel Search" while enjoying DVB-T TV/Radio.
2. Press [OK] button to start the channel search.

III.1.4 DVB-T Audio Settings

To select either master or secondary language as well as the audio channel of current service.



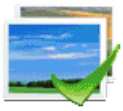
1. Browse the TV menu screen using [CH▲]/[CH▼] buttons to highlight the "Audio" option. Press [OK] button to enter the "Audio" menu.
   NOTE: you can also press [AUDIO] button to enter "Audio" while enjoying DVB-T TV/Radio.
2. Use [VOL▶]/[VOL◀] buttons to select stereo/left/right audio channel. Scroll through the available language using [CH▲]/[CH▼] buttons. Press [OK] button to select the language.
3. Press [EXIT]/[MENU] key to exit.

III.1.5 Channel Information

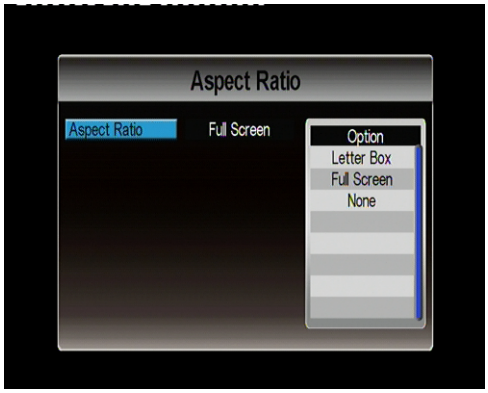
Provide the information of current service's system parameters and signal information.

1. Browse the TV menu screen using [CH▲]/[CH▼] buttons to highlight the "Channel Information" option.
   NOTE: you can also press [INFO] button to enter "Channel Information" while enjoying DVB-T TV/Radio.
2. Press [OK] button to display the channel information.
3. Press [EXIT]/[MENU] button to exit

III.1.6 Aspect Ratio



To adjust image aspect ratio into full-screen, letter-box, and none



1. Browse TV menu using [CH▲]/[CH▼] button and press [OK] button to enter "Aspect Ratio"
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up/down the options.
3. Select one by pressing [OK] button or exit the setting by pressing [MENU]/[EXIT] button.
4. After adjusting, press [MENU]/[EXIT] button to leave "Aspect Ratio" menu.

III.1.7 Subtitle

To activate or deactivate the subtitle function.

1. Browse the TV menu screen using [CH▲]/[CH▼] buttons to highlight the "Subtitle" option. Press [OK] button to enter the "Subtitle" menu.
2. Use [VOL▶]/[VOL◀] buttons to select stereo/left/right audio channel. Scroll the available language using [CH▲]/[CH▼] buttons. Press [OK] button to activate the subtitle.
3. Press [EXIT]/[MENU] key to exit.

III.1.8 Teletext

To enter the teletext menu.

1. Using [CH▲]/[CH▼] buttons, browser TV menu to highlight the "Teletext" option. Press [OK] button to enter "Teletext" menu.
   NOTE: you can also press [TTX] button to enter "Teletext" menu while enjoying DVB-T TV/Radio.
2. Press [CH▲] button to view next page or [CH▼] to view previous teletext page.
3. Press numerical key button to jump to specific teletext page.
4. Press [MENU]/[EXIT] to leave.

III.1.9 AFS Setting*

To set up AFS mode.

There are three AFS mode available:

1. OFF: turning OFF AFS function

2. Manual: when signal is weak, after certain seconds AFS period time, for the continuous reception of current TV program the unit will first search a new available frequency from existing database. If none was found, user has to manually perform channel search procedures either

via DVB-T menu option "Auto Search".

3. Auto: when signal is weak, after certain seconds AFS period time, for the continuous reception of current TV program the unit will first search a new available frequency from existing database. If none was found, unit will <u>automatically</u> perform channel search procedures after user-defined tuning period time.

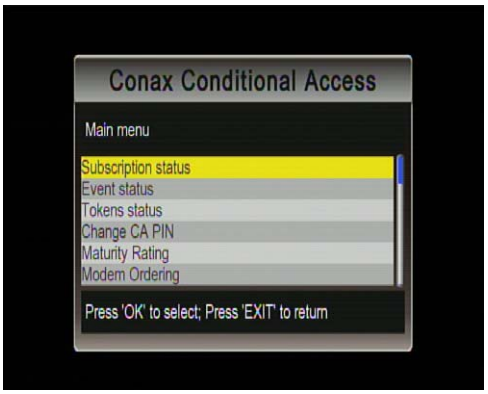
1. Browse TV menu using [CH▲]/[CH▼] button and press [OK] button to enter "AFS Setting"
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up/down the options.
3. Select one by pressing [OK] button or exit the setting by pressing [MENU]/[EXIT] button.
4. After adjusting, press [MENU]/[EXIT] button to leave "AFS Setting" menu.

**<u>What is AFS?</u> AFS or Auto Frequency Switch is a smart feature that allowing user to watch a channel when moving between 2 cities/areas where the channel is broadcasted in different frequencies. For example, channel "ABC" in city A is broadcasted in frequency 474MHz. In city B, this channel "ABC" is broadcasted in frequency 490MHz. With this feature, when user moving from city A to city B or vice versa, user can keep watching the channel "ABC" without having lost the signal neither performing auto search to find the new frequency in city B.*

III.1.10 Common Interface

To access conditional access card menu, check subscription status, change CA PIN, and so on.

1. Using [CH▲]/[CH▼], browse TV Menu to highlight "Common Interface" option.
2. Press [OK] to enter "Common Interface" menu.
3. Use [CH▲]/[CH▼] button to browser conditional access menu.
4. Press [OK] to enter highlighted menu.
5. Press [MENU]/[EXIT] to exit.



III.1.11 CONAX CA

To access CONAX CA card menu. In this menu, you can check subscription status, check event status, check token status, change CA PIN, change maturity rating, get Conax CA information and get CA message.

1. Using [CH▲]/[CH▼], browse TV Menu to highlight "CONAX CA" option.
2. Press [OK] to enter "CONAX CA" menu.
3. Use [CH▲]/[CH▼] button to browser CONAX CA menu.
4. Press [OK] to enter highlighted menu.
5. Press [MENU]/[EXIT] to exit.

Subscription Status

Subscription information. Include: Start date, End date etc.

Event Status

Event information

Token Status

Display smart card subscription order tokens info.

Change CA Pin

Change the CA PIN code, which may be needed for some function, such as Maturity Rating.

Maturity Rating

Includes four subclasses: G/ PG/ A/ X, G is general audience, PG is parental guidance, A is over 18, X is highest. You must enter CA PIN before modifying the rating.

About Conax CA

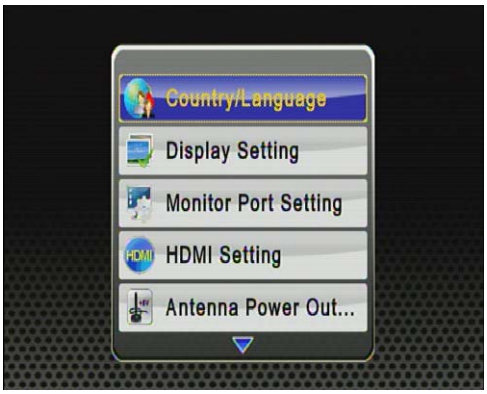
Include: Software version, Hardware version, CAM Serial number, Interface version, Card number, Number of sessions, Language, CA_SYS_ID, CIM Build Date, ChipID.

Message

Message Management.

System Settings

This is the menu screen of system settings. Users can adjust the country/language setting, display setting, monitor port setting, HDMI setting, antenna power output, reset default, and proceed to a software upgrade. Use [CH▲] and [CH▼] buttons to highlight the desired item and press [OK] button to select one.

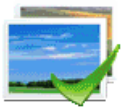


III.1.12 Country/Language

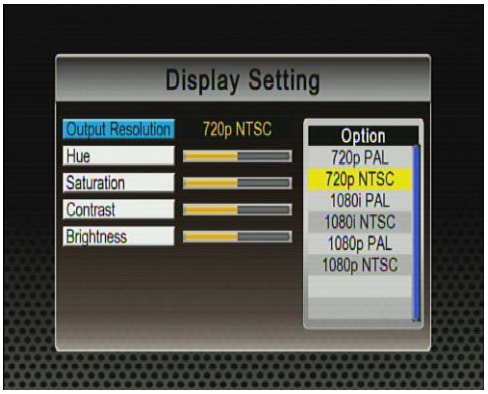
To set up the OSD language and DVB-T regional settings.

1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
4. After adjusting, press [EXIT]/[MENU] button to exit the "Region/Language" menu.

III.1.13 Display Setting



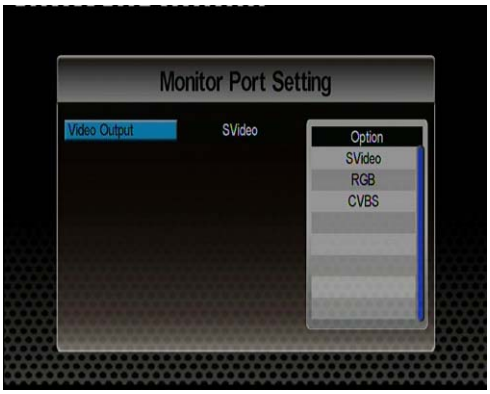
To adjust picture brightness and colour setting (hue, contrast, and saturation)



1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶]/[VOL◀] button to adjust item highlighted.
3. Press [EXIT]/[MENU] button to exit the "Picture Quality" menu.

III.1.14 Monitor Port Setting

To set up the video output format through monitor port



1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
4. After adjusting, press [EXIT]/[MENU] button to exit the "Monitor Port Setting" menu.

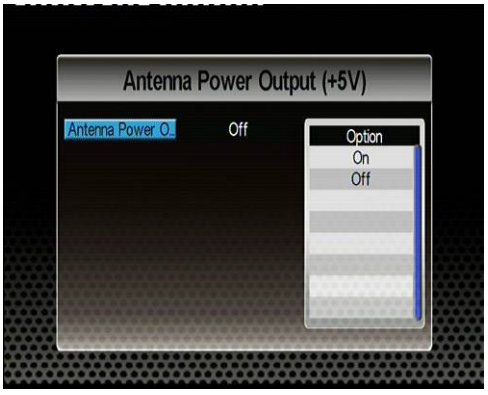
III.1.15 HDMI Setting

To set up the image type of HDMI output

1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
4. After adjusting, press [EXIT]/[MENU] button to exit the "HDMI Setting".

III.1.16 Antenna Power Output (+5V)

To provide / stop providing antenna phantom power



1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the

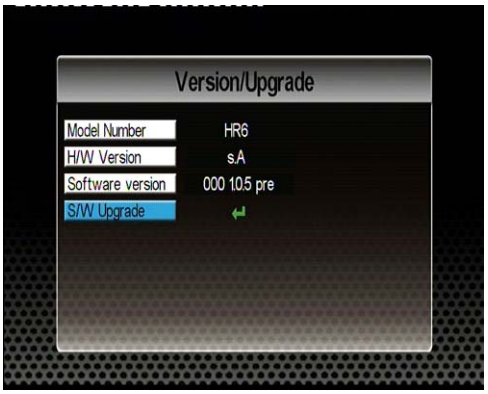
[EXIT]/[MENU] button.

4. After adjusting, press [EXIT]/[MENU] button to exit the "Display Setting".

III.1.17 Version Upgrade

To upgrade the user interface software version.

1. Insert the USB device containing the software upgrade file into the card slot.
2. After entering the Version/Upgrade menu, press [OK] button to start the upgrade.



III.1.18 Reset Default

To reset all settings to factory default.

1. Press [CH▲]/[CH▼] buttons to highlight "Reset Default" option and press [OK] to enter.
2. Press [OK] to reset system's settings to factory default.
3. Press [EXIT] to exit.

III.2. Photo Menu

On entering Photo service, press [MENU] button to invoke photo menu. Through this menu, user can adjust playing mode, repeat mode, slideshow time, and slideshow effect.

1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
4. After adjusting, press [EXIT]/[MENU] button to exit.

III.3. Music Menu

On entering Music service, press [MENU] button to invoke music menu. Through this menu, user can adjust the sound effect, set up the equalizer, set the play mode and repeat mode.

1. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
2. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
3. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
4. After adjusting, press [EXIT]/[MENU] button to exit.

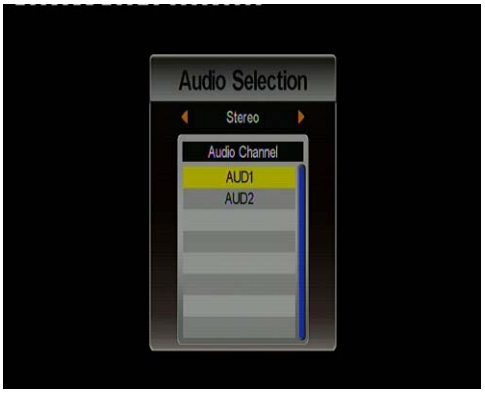
III.4. Movie Menus

On entering Movie service, user can manipulate aspect ratio, sound effect, set up the equalizer, the play mode, change audio, and subtitle.

III.4.1 Menu

1. Press [MENU] to enter "Menu".
2. Press [CH▲]/[CH▼] buttons to highlight the item you want to adjust.
3. Press [VOL▶] button and use [CH▲]/[CH▼] to scroll up and down the options.
4. Select one by pressing the [OK] button or exit the setting by pressing the [EXIT]/[MENU] button.
5. After adjusting, press [EXIT]/[MENU] button to exit the "Movie Menu".

III.4.2 Audio Selection



1. Press [AUDIO] button to enter "Audio Selection" while enjoying Movie playback.
2. Use [VOL▶]/[VOL◀] buttons to select stereo/left/right audio channel. Scroll the available language using [CH▲]/[CH▼] buttons. Press [OK] button to select the language.
3. Press [EXIT]/[MENU] key to exit.

III.4.3 Subtitle

1. Press [RED]● button to enter "Subtitle" menu while enjoying Movie playback.
2. Use [VOL▶]/[VOL◀] buttons to select stereo/left/right audio channel. Scroll the available language using [CH▲]/[CH▼] buttons. Press [OK] button to activate the subtitle.
3. Press [EXIT]/[MENU] key to exit.

IV. Trouble Shooting Q&A

Most of the troubleshooting issues can be easily resolved. The most common cases and their respective solutions are listed in the table below. If the problem persists, please contact the after sales service.

Problem	Possible Reason	Solution
No picture, no audio.	The power cord is not properly inserted into the unit.	Check the power wire connection.
	The unit is not switched on.	Press [POWER] button.
	Unit is in stand-by mode.	Press [POWER] button.
In DVB-T mode, the number of DVB-T channels is not as much as we expected.	The number of available channels is limited due to the local broadcasting environment. The available channels can vary depending on the area.	Perform "Auto Search" or "Manual Search" to rescan all the channels.
	The signal quality of some TV channels is too low.	Please use active antennas instead of passive antennas for better reception quality.
	Some TV channels are not available.	Only the locally free broadcasted channels can be viewed. They can differ depending on the area.
In DVB-T mode, all of the channels show "no signal" or random mosaic tiles appear on the display.	Some TV channels signal quality is too low.	Please use active antennas instead of passive antennas for better reception quality.
	The antennas are not properly connected.	Please check the connection of the antennas.
	No DVB-T service is provided in the area.	Check your country DVB-T coverage map. It is not possible to watch digital TV/listen to digital radio in non-covered areas.
	Incorrect Regional Setting	Please check whether "Regional Setting" is correct, and perform "Auto Search" to rescan all of the channels.
In DVB-T mode, no video or audio and "Scrambled" message appears on the screen	No Smart card is inserted	"Scrambled" message will appears when the TV/Radio signal received is paid-TV. To watch these channels, please insert a valid smart card into CA slot on front panel.
	Smart card is out of date	Please check your subscription date. If your subscription date is

		already out-of-date, please contact your service provider to extend your subscription.
The video is fine but there is no sound.	The audio volume is too low.	Press [VOL▶] button to raise the volume.
	The audio is muted.	Press [MUTE] button to disable the mute function.
The remote control does not work	No power.	Check the remote control battery. *NOTE: the new remote control might be supplied with a small plastic insulator to avoid discharge of battery power. Check that the plastic insulator has been removed.*
	No "line-of-sight" between unit and controller	Ensure there are no obstacle between the controller and the unit.
Smart card/CAM card error message	No access – geographical blackout	No entitlement or the entitlement has expired, please contact the operator to renew the entitlement
	No access – network block	
	No entitlement	
	Incorrect card	Please check the smart card and Conax card inserted correctly. If everything is done as requested, but the service still cannot be watched, please contact Customer Service Center for help.
	Card problem – please check	
	No card inserted	
	Incorrect Conax card	
	No access	
	Maturity lock	Please unlock or recharge card
	Enter CA PIN to unlock	
	Not enough tokens – please recharge card	

V. Specification

Features	
DVB-T Reception	Best in class performance of DVB-T TV reception (Diversity-2)
Multimedia playback	MP3, MPEG4, JPEG multimedia playback through USB device
Advanced functions	Support Pay TV, TV-recording , and AFS function
RF Input	
Antenna	Active antenna supported (F-Connector or Fakra type)
Frequency range	VHF (170-230 MHz) and UHF band (470-862 MHz)
RF input impedance	75 Ohm
Channel bandwidth	6/7/8 MHz
TV System	
Transmission standard	ETS 300 744 DVB-T compliance
Video/Audio decoder	Real time 1080 Full-HD Video Decoder: MPEG-2(ISO/IEC 13818-2) SD& HD H.264 (MPEG-4 AVC, ISO/IEC 14496-10) SD & HD
S/W Feature	
OSD Language	English, French, Deutsch, Italian, Spanish, Portuguese, Holland, Russian, Polish, Swedish, Finland, Turkish, Czech, Greece, Danish, Arabic, Thai, Traditional Chinese, Hungarian,
Features	DVB-T TV/Radio, Auto Channel Search, Multi–Language EPG, Channel Preview, Teletext, Subtitle, Auto Frequency Switch (AFS)
TV/Radio Recording	Record TV/ Radio programs on USB device
Media format	
Media port	USB
Audio format	MP3, WAV, AAC
Video format	MPEG-I/II/IV, VOB, AVI, DivX, Xvid, MKV, TS, MOV, RMVB
Photo format	JPEG, BMP, GIF, PNG, TIFF
Subtitle format	SRT, SUB, SSA, ASS, SMI, PSB, TXT, IDX
Recorded file format	*.TSV (TV recording) and *.TSA (Radio recording)
Interface	
HDMI port	HDMI 1.3 transmitter 1080p supported
CA slot	Smart card compatible with CONAX (option)
CAM slot	PCMCIA Common Interface
USB port	USB 2.0 host supported (for playback and for TV/Radio recording)
AV In	External A/V input (3.5 Φ earphone jack*1)
Power/IR port	+12-24V DC-In, IR extension cable input
AV I/O port	8 pins port including 2 CVBS video outs & 1 external A/V input
Monitor port	14 pins interface port for advanced integration with monitor or head

	unit
TV out	1 CVBS video out, 1 audio (L/R) out
Power	
Input voltage	+12-24 V DC
Power consumption	5.5 W
Dimension and Weight	
Dimension	185 x 147.2 x 34 mm
Weight	750 g